

REMARKS

The present application is a continuing examination application. The present amendment to the specification corrects further informalities. No new matter has been added.

Claims 9-14 were rejected as indefinite, but otherwise found allowable. Applicant requests reconsideration. The claims have been accordingly amended. New added Claim 18, is a direct replacement to canceled claim 8, previously found allowable, when rewritten in independent form. Applicant requests reconsideration. New Claim 18 is rewritten in independent form.

New claims 15-17, (replacing canceled claims 5-7) were effectively rejected as being obvious in view of Phillips, USSR, Hosman or Blass in further view of Hettlage. Applicant requests reconsideration. The focus of the continuing examination is the obviousness of new claims 15-17, replacing canceled claims 5-7, respectively, and hence the following discussion refers to claims 5-8, but that discussion is also applied to new claims 15-18.

In the previous office action, the examination concedes that claimed inventions are not anticipated by the prior art. The claimed inventions rely upon the combination of straight and ninety degree bent shapes, and upon square and circular cross sections, so that orthogonal probes can be used to detect orthogonal signals that are not cross coupled during

1 communication through the waveguide sections. The rejection of  
2 claim 5 claiming different shaped propagation waveguides, as  
3 obvious, may lack comprehension of the purpose of the invention  
4 and the purpose of the explicitly claimed shaped conduits. The  
5 invention relies on the use of circular and square cross  
6 sections and the use of straight and ninety degree bent shapes  
7 that enables the propagation of orthogonally polarized signals  
8 without signal cross coupling, SO THAT, the use of orthogonally  
9 polarized sensitive probes can then be used to isolate the  
10 polarized signals of interest that are concurrently  
11 communicated through the waveguides. Such a problem, and of  
12 course, such a solution, is not addressed in the cited  
13 references, and hence, the arrangement in claim 5 can not  
14 possibly be deemed obvious in view of the cited references. The  
15 obviousness rejection based upon different shapes found in the  
16 prior art, admittedly not anticipated by cited references, is a  
17 simplistic rejection based on mere identification of prior art  
18 elements along with hindsight reconstruction, apparently  
19 without an understanding and analysis as to why the  
20 particularly claimed inventions have the particularly claimed  
21 arrangement. When the reasons for the particularly claimed  
22 circular and square, and, straight and 90° bent conduits are  
23 firstly understood as propagation conduits that do not cross-  
24 couple orthogonally polarized signals are firstly understood,  
25 for solving an unknown problem, and hence, an unobvious  
26 problem, then the claimed combination can be recognized as an  
27 unobvious solution, and as such, allowance becomes proper. The  
28 claims particularly claim that one waveguide shape is straight

1 and the other is ninety degree bent for selective coupling, and  
2 that either one or both waveguides can have a circular or  
3 square cross-section for signal isolation without cross  
4 coupling. This novel arrangement as well as the isolation  
5 reason for this combination is certainly not taught in the  
6 cited references.

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9 The cited references do not solve the problem of providing  
10 dual port routing of concurrently communicated orthogonally  
11 polarized signals. In particular, Hosman discloses a curved  
12 waveguide 19, Lanctot 117' discloses a rectangular waveguide  
13 shown clear in Figure 1, Hettlage discloses a curved waveguide  
14 9, Phillips discloses curved waveguides 35, 30 and 32, and  
15 Vogeley shows a disjointed waveguide 22 and 14 causing  
16 distortion of or coupling between orthogonally polarized  
17 signals. Blass discloses a rectangular cross section of  
18 waveguide 6. Tyrrell discloses curved waveguides 12 and 13.  
19 Lanctot 079' discloses rectangular waveguides 12 and 13. Miller  
20 discloses a rectangular waveguides Y, X1 and X2. USSR discloses  
21 only a single waveguide section. These waveguides are  
22 completely unsuitable for the solving the isolation  
23 polarization cross-coupling problem solved by the present  
24 inventions as particularly claimed. The cited references do not  
25 teach nor suggest the problem, and hence, can not possibly  
26 suggest the solution of the claimed combination. Actually, the  
27 cited references teach away from the present invention as  
28 evidence of nonobviousness of the present invention.

The cited references use rectangular waveguides that is limited to communicating a single signal whereas the present invention provides the capability to communicate two independent orthogonally polarized signals sharing the same frequency band. The new combination of the present invention provide a solution that was not taught by the cited references, and hence, the present invention can not be obvious from the cited reference, even in the presence of some common elements combined in a different way.

The cited references do not teach nor suggest a switch having straight and 90° bent waveguides having square or circular cross sections for routing signals to a pair of ports enabling concurrent communications of orthogonally polarized signals remaining isolated from each other during concurrent communication through either one of the waveguides. In this unique configuration, isolated orthogonally polarized signals can be concurrently communicated and routed to the selected port without distorting each other. The cited references do not teach or suggest the problem solved by the present inventions, and hence, can not possibly teach or suggest the claimed combination. Allowance of the claims is respectfully requested.

Respectfully Submitted

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